



Minuteman Repeater Association

The Minuteman

Volume 54 Number 4 March 2025
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The Minuteman Repeater Association is a non-profit organization providing communications infrastructure and volunteers for community and emergency events.

Membership Meeting: Wednesday, 19 March 2025 ~7:30 - 9:30 pm

FT8 -- An Update Larry Banks ~ W1DYJ

This is a Hybrid meeting: New England Sci-Tech + ZOOM

(Directions to New England Sci-Tech on Page 5)

Members: log into your account on MMRA.ORG to obtain the ZOOM info.

Larry first gave this talk in 2019. Since then a lot has changed and FT8 is now very popular. This talk will review the 2019 talk which discusses how to use WSJT-X and FT8, and will add some insights that Larry has discovered with the nearly 6000 contacts he has logged on FT8.

Licensed in 1961 as novice KN1VFX, Larry became W1DYJ in 1966. After acquiring three degrees in EE from MIT, Larry was hired in 1969 by Hewlett-Packard Medical's Cardiac lab in Waltham, MA, working on Electrocardiographs and then Cardiac Ultrasound systems. He moved to HP Medical Education in 1993, responsible for technical and project management training. When HP split apart, he became Agilent Technology's global program manager for their Learning Management System. "Retiring" in 2005, he consulted for Avago (now Broadcom) on eLearning technologies through 2012. He now spends his time chasing DX and contesting in Woburn, traveling with his wife Maren, and attending many jazz and classical concerts. He is the net manager and newsletter editor for the MMRA, publications editor for HamXposition, and a member of the YCCC.

MMRA Elmer Forum

New or prospective hams:

Join us to ask questions about ham radio!

Experienced hams: join us to provide answers.

The 2nd Wednesday of the month: 3/12, 4/9, 5/14

ZOOM: 876 8326 0138

Passcode: elmer

[See Page 4](#)

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President's Corner ~ David Hornbaker, N1DCH**Happy Almost Spring!**

It is about time to get out and inspect antennas, coax, and other outdoor equipment. I hope your stations survived this winter's winds!

The March Elmer/Mentor forum will be held on Wednesday, March 12 at 7:30 PM. Please see the Elmer section below for Zoom meeting information.

Join us for the March 19, 2025, membership meeting at New England Sci-Tech. Larry Banks – W1DYJ will be updating us on FT8 and changes since his 2019 presentation. Larry has a ton of FT8 experience, and I look forward to his presentation. If you cannot make it to Natick this is a hybrid meeting, and the Zoom meeting information is available on the website (www.mmra.org). You must be logged into the website to view the information. Non-Members can email contact@mmra.org for the Zoom information.

MMRA participated in the Algonquin Flea! We had two tables in the hall and sold over \$169 worth of stuff. Thanks to Kevin—K1KWP, Bob—K1IW, and Bruce—KC1USA who manned the tables. The MMRA Amateur Radio Exam team staffed the Exam session during the Flea. We had three candidates, and two people earned their technician tickets.

The Marlborough 927.700 repeater has been updated. The repeater now supports both analog and P25 operations. Thanks to Roger – WA1NVC for his work upgrading and preparing the repeater and Roger – WA1NVC and Dave Green K1PRE for installing the updated repeater at Sligo.

I would like to welcome David Kula – KC1VZH as our newest net control operator.

Join us Tuesday nights at 8:00 PM for our weekly Technical Information and Other Stuff (TlaOS) net. There will be a lively discussion on all sorts of HAM issues, including equipment, antennas, software, repeaters, and other stuff. The main purpose is to test our ability to link up the repeaters in case of an emergency, or to support some event like a marathon. You can also join via EchoLink if your radio is a little under the weather (or in my case, too lazy to walk down to the shack). See below for more information.

You can find out more information about how and when the repeaters are linked on the website (https://www.mmra.org/repeaters/repeater_linking.html).

Please remember to keep your profile up to date. (<https://www.mmra.org>) especially if your email changes. Note that if your callsign changes, send email to contact@mmra.org and we will update your call-sign in the database.

Renewals may be done on the website, or you can mail your renewal to Minuteman Repeater Association, PO Box 669, Stow, MA 01775-0669. Please allow 7 days for us to process your renewal. Please allow 14 days for renewals that are mailed.

The MMRA Amateur Radio Exam team is looking for additional volunteers. Information on becoming an ARRL-VEC accredited VE is available on the ARRL website <https://www.arrl.org/volunteer-examiners>. There is an open book test for certification. You do not need to hold an Amateur Extra license to volunteer. For more information contact Ron Rothman WO1E wo1e@mmra.org or ve@mmra.org.

Continued Next Page

President's Corner ~ David Hornbaker, N1DCH**Upcoming MMRA Amateur Radio Exam Sessions:**

The March Session will be held on Saturday, March 22nd at 9:15 AM, at the Marlborough Public Library, David Meeting Room, Marlborough, MA.

<https://www.bing.com/maps?q=22+Witherbee+Street+Marlborough%2C+MA+01752&PC=U531&FORM=ANCMS9>

The April session will be at Marlborough Central Fire Station, 215 Maple ST (RT 85), on Saturday, April 19th, 9:00 AM.

<https://www.bing.com/maps?q=215+maple+st+marlborough+ma&FORM=HDRSC4>

Walk-ins are welcome. **If you are sponsoring someone, please have them apply for an FRN before the session.**

Please remember to bring a State ID, your FRN, and if upgrading, a copy of your current license (from FCC website) or proof of license from ARRL or QRZ website. For more information, contact Ron – WO1E at ve@mmra.org or wo1e@mmra.org.

Net Control Operators wanted! Interested in becoming a control operator for the TlaOS net? Larry is looking for a back-up operator. Contact Larry Banks – W1DYJ w1dyj@mmra.org.

Do you know someone that has passed the Technician test (element 2) in the last year? They are eligible for free membership in MMRA. Have them send email to contact@mmra.org requesting membership. The club secretary will contact them with details on how to qualify.

73 — Dave — N1DCH

MMRA Elmer(ing) ~ Kevin Paetzold, K1KWP

In the November newsletter we announced that the MMRA would be hosting Elmering/Mentoring sessions. The intention is to give new or prospective hams a place to get questions answered, how to use their ham radio license, getting on the air, getting their license, info about local ham resources, and programming their radio. This is purposely being held on zoom so that unlicensed people can participate as well as the multimedia aspect of zoom vs. just a repeater contact.

By the time you read this we will likely have had four sessions. There have been 15 or more attendees in the previous 3 sessions. Each session has lasted a good 90 minutes. I want to thank all those who have supported this effort and made themselves available to staff the sessions.

I encourage all members to seriously consider supporting and attending the Elmer Forum. A website with a "flyer" giving info on this is available at mmra.org/elmerforum. The plan is the 2nd Wednesday of each month at 7:30 PM. The next one is Wednesday March 12 at 7:30 PM which will likely happen before this newsletter issue is published.. Additional sessions are April 9, May 14, and June 11. The zoom invite is available at mmra.org/elmerforum/elmer_zoominfo.txt

73—K1KWP



MMRA Elmer/Mentor Forum

Ham radio "Elmers" are experienced radio operators who provide mentoring, guidance, and assistance to new and prospective hams, helping them learn the technical aspects of radio operation, regulations, and navigating the social aspects of the ham radio community.

Do you have questions or are you looking for advice or input on:

- how to use your ham radio license
- getting on the air
- buying equipment
- getting your License
- programming your radio
- info about local ham resources
- questions not listed above....

To assist in a robust future for HAM radio the **MMRA** hosts a forum on ZOOM to help answer questions like those above. Everyone is invited whether licensed or not. You do not need to be a member of the **MMRA**.

Elmers are the unsung heroes of ham radio, passing on their knowledge and enthusiasm to the next generation of operators. Whether you have been licensed for weeks or for years you may be able to help answer questions from others.

When: Second Wednesday of each Month at 7:30PM
upcoming 2025 dates: Mar 12, Apr 9, May 14

Where: ZOOM Meeting ID: 876 8326 0138 Passcode: elmer
full zoom invite info at mmra.org/elmerforum/elmer_zoominfo.txt



MMRA mmra.org
repeater mmra.org/repeaters/status.htm
info at: mmra.org/repeaters/repeater_index_by_frequency.htm



The MMRA offers free memberships to anyone passing the element 2 (technician) exam in the last 365 days. Send email to contact@mmra.org for more info. MMRA VE/Exam testing schedule available at mmra.org/exam.html.



Treasurer's Report ~ Kevin Paetzold, K1KWP

The MMRA receives donations each year. On behalf of the club I would like to acknowledge and thank the following members who have donated since my list in the January newsletter: **K1UN, KC1VJH, N1DFL, N1STE, and W3EVE.**

Several board members attended the Marlboro Flea on Feb 15 with proceeds of **\$169.50**. Most of the stuff sold was cleaned out from the current Billerica site.

I only count paid memberships (I am after all the treasurer :-). So far **260** members have either renewed or recently joined since September 1, 2024 when the new membership year (2024-2025) started. This is **24** greater than the 2023-2024 year. As of this writing **45** members who expired on January 1st have not yet renewed.

I predict that the antenna system repairs for the **146.820** repeater is likely to cost **\$2400** or more. By the time you read this that repeater will hopefully be back on the air. This cost is covered by the Emergency fund which is annually approved at the May meeting. Some of the donations listed above were specifically targeted for this repair.

We had/have three other repeaters (Quincy, Belmont, and Billerica) which we need to relocate/change.

- There has been no progress finding a new site in Belmont for the **145.430** repeater. This repeater will probably end up at the Burlington site.
- There is approval for a new Billerica site. The major expenses will be a commercial antenna climber and a 220 antenna. This cost is covered by previous membership vote allocating \$3000. I predict this will end up more like **\$2000**.
- No actual progress has been made finding a new site for the Quincy repeater although there has been some more limited contact with the city. If you are an optimist there is some hope that this may get resolved at some point. I am not an optimist. This is not a stable situation and the continued operation of this repeater is at risk. Relocating this repeater would likely require new antenna system, a commercial antenna climber, new electrical service, and a new shelter. My prediction is that this would likely be at least **\$4000**.

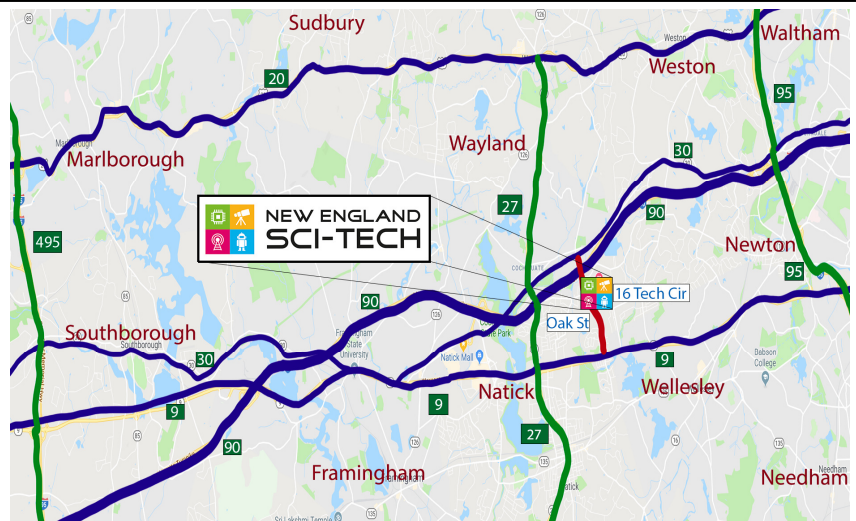
73, K1KWP

Directions to New England Sci-Tech Inc. 16 Tech Circle Directions Natick MA 01760

From the north: take Rt 95 or Rt 27 or Rt 495 south to Route 30 toward Wayland. Once in Wayland, turn South on Oak Street and in 1/2 mile look for Tech Circle on your left. Follow Tech Circle to the end.

From the south: take Rt 95 or Rt 27 or Rt 495 north to Route 9 toward Natick. At the Wellesley-Natick line, turn North on Oak Street and in 1/2 mile look for Tech Circle on your right. Follow Tech Circle to the end.

From the east or west: follow either Rt 30 or Rt 9 toward Natick, turn onto Oak Street at a set of traffic lights, and in 1/2 mile look for Tech Circle. Follow Tech Circle to the end.



20 January 2025 Membership Meeting ~ Minutes

Called to order @ 7:36PM

Repeater Status Report: - Bob DeMattia – K1IW

Boston 146.82 – is still off the air, waiting for a progress report from K1BOS.

Quincy 2m .67 Repeater: Many more attempts to contact someone in Quincy City Government with no response. It's highly likely at this point that '67 will be moving to Marlborough.

Any Quincy Resident who is willing to help on this issue will be appreciated.

(Formally) the Belmont Repeater: No further progress to report.

Billerica 147.12: Awaiting confirmation on a new site.

Lowell – Link Radio has issues

HUB1 Link radio (to NH) is being repaired.

Weston 2m -SWR is still high. The November planned trip was cancelled so we will return this Spring.

New Marlborough 900 Repeater – is ready for installation.

All other Repeaters: Functioning normally.

900 MHZ Update – Roger-WA1NVC

Marlborough 900: Roger's plan was to go to MRW with Bob to see if we can upgrade Marlborough 900 in place. As Bob is the SCOM guru, Bob can help on cables and adjustments needed to be made.

Boston 900: The Quantar we bought for Boston is working nicely at N3HFK's in Ashland. It will need to be linked to the IRLP and SCOM just like Marlborough. From Marlborough we can learn before tackling Boston. Roger also has a Quantar 30" cabinet available for Boston

MMRA Elmer Forum – Kevin K1KWP – Zoom Sessions

The unofficial Elmer Forum started on November 13th with 2 new Hams participating along with 4-5 of us acting as Elmers. For that 90-minute practice session, many questions were asked and answered.

The official start for these monthly coaching sessions was Wednesday, December 11, 2024, at 7:30 PM with 17 people participating. The content flowed with good feedback from the participants.

On Wednesday, January 8, 2025, our 2nd Elmering Zoom forum took place with 24 people participating. Two non-licensed hams attended. Again, the content and participation was compelling so we will continue on the 2nd Wednesday of each month thereafter. We expect these coaching sessions will continue to grow over time.

This is an opportunity to learn about the most suitable equipment to buy on a budget, how to program your radios, where and when you can get on the air and so much more.

Exam Sessions

Saturday, January 18, 2025, at 9:15 AM

Marlborough Public Library, Meeting Room 2, 18 Witherbee Street, Marlborough, MA 01752

Please tell your friends, who are interested in taking tests, that they must have photo IDs and FRNs (and please obtain your FRN # prior to your arrival).

Copy of license required if upgrading (or proof from the ARRL or QRZ)

Note: SS#s, are no longer accepted by the FCC. Everyone must have an FRN

Next Upcoming Exam Session: Saturday, February 15, 2025, at 9:00 AM

1st Lt. Charles W. Whitcomb Middle School 25 Union Street, Marlborough, MA 01752

Continued Next Page

20 January 2025 Membership Meeting ~ Continued**Algonquin Flea Market**

Saturday February 15

1st Lt Charles W. Whitcomb School, 25 Union St, Marlborough, MA

Doors open at 9:00 AM

Set up available at 6:30 AM

MMRA Amateur Radio Exam Team will administer Radio Exams

MMRA will have a table

Stop by and say "hello"**Upcoming Meetings**

February 12, 2025, 7:30 PM

Elmer/Mentor Forum

Zoom/ Only (Open to all)

February 19, 2025, 7:30 PM

Business Meeting

Zoom Only

March 12, 2025, 7:30 PM

Elmer/Mentor Forum

Zoom Only (Open to all)

March 19, 2025, 7:30 PM

Membership Meeting

Location & Speaker TBA

Hybrid Meeting& Zoom

Tuesday night 8:00 PM (year-round)

Technical Information and Other Stuff Net

MMRA Linked Repeaters

The meeting ended informally at 8:19 PM.

Continued Next Page**Photos from the
Algonquin Flea Market****The MMRA sold \$169.50
worth of stuff.**

20 January 2025 Membership Meeting ~ Continued

Presentation by Andy Stewart – KB1OIQ “Andy’s Ham Radio Linux”. Andy has been licensed since 2007 and now holds an Amateur Extra license. He has retired from Computer Engineering since August, 2024.

Linux is open source as a platform, Andy has his own software AHRL (Andy’s Ham Radio Linux). In his latest version – V26C – (which will be released in several days from now) AHRL has been tested to work on several flavors of Debian, Ubuntu and Raspberry Pi OS. Whatever Linux you use, AHRL can be installed on top of it. Andy has over 80 Ham Radio Program Menus such as HF Propagation, CQ & Logging, CW Modes, Antenna Modeling, Digital Modes, an alternative version of Winlink and much more that seems to cover every aspect of Ham Radio.

His software can be downloaded for free at Source Forge. AHRL has Version 25 or Version 26. Andy has made presentations on YouTube, Dayton Hamvention and will present at our HamXposition’25 in Marlborough, assuming the selection committee approval. We have recorded tonight’s presentation on <https://mmra.org/> our website.

Meeting Attendees at Central Marlborough Fire Station Training Room:

David Hornbaker, N1DCH; Ken Horton, KA1GFN; Deb Horton, N1NVJ; Eric Williams, KV1J; Glenn Ghidale-son, WA2KRS; Bill McIninch, WA1MOM; Doug Todd, W1DMT; Daren Nowlan, KC1NYR;

Zoom Meeting Attendees:

Roger Coulson, WA1NVC; Ken Peluso, KC1PFS; Joe Fratto K1UN; Stephen Babbitt, KC1LPZ; Kevin Paetzold, K1KWP; Larry Banks, W1DYJ; Joe Weisse, W1HAL; John Spencer, WA1MDD, Stephen Umans, K8ZBE, Joe Colleran, K1HGT; Nico Smith, KC1VPU; Ed Souza, W1ATO; Jonathan Traum, K1BTZ; Mike Rioux, E1UDN; Andy Stewart, KB1OIQ; Stephen Contrado, KC1VJH;

Meeting Adjourned at 9:10PM

Respectfully Submitted by Stephen M Babbitt, KC1LPZ, Clerk

Some of Andy’s slides

Andy's Ham Radio Linux

Andy Stewart
KB1OIQ
January 15, 2025

Presented to
Minuteman Repeater Association
Marlborough, MA USA

Goals

- Promote Linux
- Give back to ham radio and Linux communities
- Build on top of an existing Linux distribution
- Create a software collection containing as much ham radio software as possible – nothing proprietary
- Goal: Everything just works!
- Focus on the radio hobby!
- The idea of “Andy’s Ham Radio Linux” began this way

PLEASE - PLEASE - PLEASE:

- Be sure to download and read the GETTING_STARTED document BEFORE you begin the installation.
- Follow the helpful hints!

Target Computer

- Any x86_64 computer 7 years old or less
...or...
Raspberry Pi 4/5
- Minimum: 2 GB of memory
Recommended: 8 GB
- Storage: 10 GB after installation
- Networking: wired or wireless
- USB required for installation

Video available at: <https://drive.google.com/file/d/1SJrXlZLKBefjOAeBGwuzDmn68pJFkes/view>

20 January 2025 Membership Meeting ~ Continued

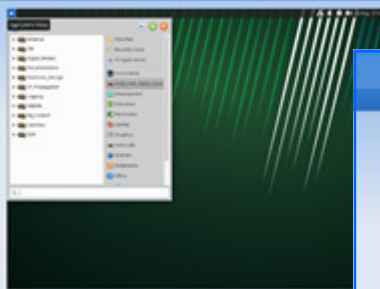
A Whole New Approach

- Starting with V26:
 - First, the user installs the desired Linux flavor
 - Supported:
 - Debian Live
 - Xubuntu/Kubuntu/Ubuntu Linux
 - Linux Mint
 - Any Ubuntu Linux derivative *should* work
 - Download, copy, and untar `any_VER.tar.gz`
 - Some software comes from the repository
 - Other software from supplied `zip/deb/whl` files
 - Your computer compiles the source code

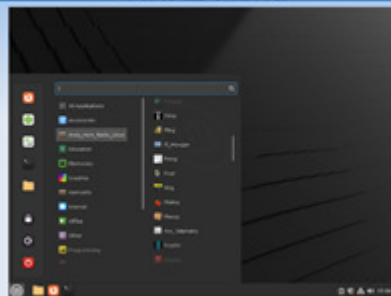
New Approach: Advantages

- Much smaller download: 600 MB
- Installation script serves as documentation
- Customize which pieces of ham radio software you desire (by hacking the install script)
- Several flavors of Ubuntu Linux already work, many more are possible
- New: Raspberry Pi 4/5
- Others can now build on this work

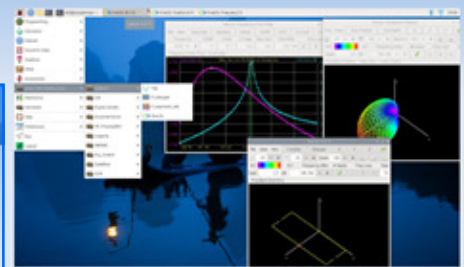
Xubuntu 24.04 AHRL Menu



Linux Mint 22 (Cinnamon) AHRL Menu



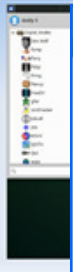
Raspberry Pi 5 AHRL Screenshot



Antenna and CW Menus



Digital Modes Menu



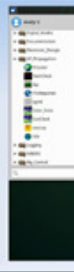
Documentation



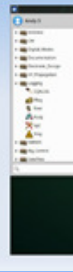
Electronic Design Menu



HF Propagation Menu



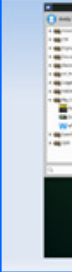
Logging Menu



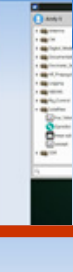
NBEMS Menu



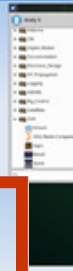
Rig Control Menu



Satellites Menu



SDR Menu



Sourceforge

- Go there: <http://www.sourceforge.net>
- Search for KBIOIQ
- Search for Andy's Ham Radio Linux
- The green "Download" button will give you the most recent version.
- In "Files", grab the GETTING_STARTED document for the most recent version.

- Questions?
- Slides available:
 - Email: kb1oiq@arri.net
- Thanks for coming to this talk!
- Have a lot of fun, and 73 de Andy KB1OIQ

19 February 2025 Business Meeting ~ Minutes

Called to order @ 7:30PM

Repeater Status Report: - Bob DeMattia – K1IW 2/19/25 Status

Belmont—No update from Ed KC1CLA. K1UN mentioned he may know someone in Belmont who may have an effect on a new site. The repeater will move to Burlington, pending a Board vote.

Billerica 147.12: New site approved. The plan is to move in April

Boston Pru-146.82 – The new antenna shipped on 2/18. We should expect it in 4-6 weeks.

Boston 927.0625 – WA1NVC is in the beginning stages of making this one P25 capable.

Lowell – 442.250 - The link radio is on low power.

HUB1 -449.925 – The NH link radio is being repaired.

Marlborough – 927.700 –WA1NVC has installed the new P25 capable repeater.

Quincy 2m .67 Repeater The dialog continues with no significant progress.

Weston - Audio turns off intermittently and did so on last night's TIOS Net.

All other Repeaters: Functioning normally.

Vote Needed:

To approve the location change of Belmont to Burlington—**Passed** (if no alternative Belmont site can be obtained),

To approve the purchase of a folded dipole antenna for 224.88 not to exceed \$900— **Passed**

To approve the callsign change of 224.88 to W1DC when it moves to Billerica— **Passed**

MMRA Mentoring / Elmer Forum – Kevin, K1KWP

These monthly zoom meeting sessions continue to generate interest. We want to encourage more participation. The next session will be on March 12th at 7:30 PM. All are welcome.

Treasurer's Report - Kevin, K1KWP

We have 256 paid members. With renewals we are doing slightly better than last year, but we still need to increase membership renewals.

Repeater repairs and maintenance so far have been allocated for FY 2024-2025, but any other unexpected issues will have a serious impact on our financial health.

Exam Session - March

Saturday, March 22, 2025, at 9:15 AM

Marlborough Public Library, David Meeting Room, 18 Witherbee Street, Marlborough, MA 01752

Please tell your friends, who are interested in taking tests, that they must have photo IDs and FRNs (and please obtain your FRN # from the FCC Website prior to arrival).

Copy of license required if upgrading (or proof from the ARRL or QRZ)

Note: SS#s, are no longer accepted by the FCC. Everyone must have an FRN.

Exam Session - April

Saturday, April 19, 2025, at 9:00 AM

Marlborough Central Fire Station, 215 Maple St (Rte 85), Marlborough MA 01752.

See above regarding requirements.

19 February 2025 Business Meeting ~ Continued

Upcoming Meetings

March 12, 2025 7:30 PM

Elmer Forum Zoom Only (Open to all)

March 19, 2025, 7:30 PM Membership Meeting

Speaker: TBD New England Sci-Tech, Natick MA

April 9, 2025, 7:30 PM

Elmer Forum Zoom Only (Open to all)

April 16, 2025 7:30 PM

Business Meeting Zoom

May 14 2025, 7:30 PM

Elmer Forum Zoom Only (Open to all)

Tuesday night 8:00 PM (year-round)

Technical, information and Other Stuff Net MMRA Linked Repeaters

Newsletter

Information to Larry, W1DYJ

March Edition Deadline: Friday, February 28, 2025

Email W1DYJ@mmra.org

Meeting Attendees:

David Hornbaker, N1DCH; Larry Banks, W1DYJ; Kevin W Paetzold, K1KWP; Stephen Babbitt, KC1LPZ; Ken Horton, KA1GFN; Joe Weisse, W1HAL; Roger Coulson, WA1NVC; John Spencer, WA1MDD; Bob DeMattia, K1IW; Joe Fratto, K1UN; Stephen Contrado, KC1VJH; Bruce Pigott, KC1US; Sue Benua, WB2OSY; Jon Traum, K1BTZ; Jane Eastman, KC1VHN; Ed Souza, W1ATO; Jeff Donaldson, KC1QFD; Yuri Botnar, KC1LNQ; Kenneth Desruiseau, N1LWK; Kellye Eversole, K1SOE; Ken Peluso, KC1PFS;

Meeting Adjourned at 8:26 PM

Respectfully Submitted by Stephen M Babbitt, KC1LPZ, Clerk

The Amateur's Code

The Radio Amateur is:

CONSIDERATE...never knowingly operates in such a way as to lessen the pleasure of others.

LOYAL...offers loyalty, encouragement and support to other amateurs, local clubs, and the American Radio Relay League, through which Amateur Radio in the United States is represented nationally and internationally.

PROGRESSIVE...with knowledge abreast of science, a well-built and efficient station and operation above reproach.

FRIENDLY...slow and patient operating when requested; friendly advice and counsel to the beginner; kindly assistance, cooperation and consideration for the interests of others. These are the hallmarks of the amateur spirit.

BALANCED...radio is an avocation, never interfering with duties owed to family, job, school or community.

PATRIOTIC...station and skill always ready for service to country and community.

Paul M. Segal, W9EEA, 1928

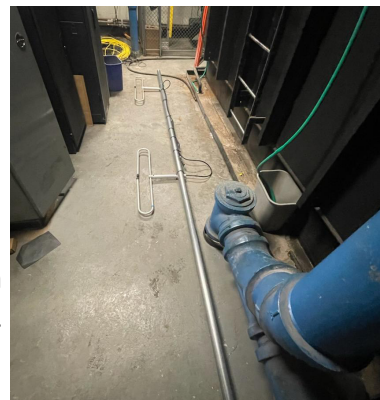
What happened to 146.82 ~ Bob DeMattia, K1IW

You may have noticed that the MMRA Boston repeater, 146.82, has been off the air. This occurred in December. Unfortunately, the antenna installers installed the antenna incorrectly and it has water damage. It took a few weeks to assess the damage and a few more weeks to receive the replacement antenna. The antenna is now with the installer (a different one!). The installation was supposed to be on Friday the 7th, but high winds prevented this. The install is rescheduled to March 11th. With any luck, by the time you read this, it will be back. New photos next month.



Water got into the connector.
When it froze, it broke the
connector apart.

The old antenna sitting on
the floor in the equipment room.



More Repeater Changes ~ Bob DeMattia, K1IW

The Billerica 147.12 repeater will be taken down from its current site in early April. It will then be off the air for a few weeks while the antennas get installed at the new site. By late April it should be back on the air from its new location in Billerica.

<u>Billerica - 147.12</u>	<u>Old Site</u>	<u>New Site</u>
Site Elevation AMSL	188	276
Supporting Structure	155	110
Antenna Elevation AMSL	343	376
Height Above Average Terrain	179	214

Additionally, the 224.88 repeater in Burlington is being moved to this site. The former Belmont equipment will move into the Burlington site, so 145.43 will soon be in Burlington, most likely by the end of March.

Dave Green K1PRE and Roger WA1NVC reinstall MRW 900Mhz



Upcoming MMRA Meetings

Meetings usually start at 7:30 PM
Meeting locations and times are subject to change.
Consult the MMRA website for the most up-to-date information.

ZOOM Teleconference login info is available
once you log into your account on MMRA.ORG

Non-members: if you wish to attend, email contact@mmra.org.

Elmer Forums — ZOOM only — 3/12, 4/9, 5/14

March 19, 2025: Membership Meeting

Speaker: Larry Banks - W1DYJ

Topic: FT8—An Update

Location: New England Sci-Tech + ZOOM

April 16, 2025: Business Meeting — Zoom

May 21, 2025: Annual Meeting & Elections

Speaker: Anthony - K8ZT

Topic: 10 Worst Antennas for Amateur Radio & How You
Can Do Better!

Location: New England Sci-Tech + ZOOM

June 18, 2025: Business Meeting — Zoom

Don't Forget - Join Us!

Every Tuesday @ 8 PM
Technical, Informational and Other Stuff Net

The MMRA's repeaters are linked Tuesday nights for the
TIOS Net. Keep up with what's happening in the MMRA and
ask your ham related questions.

Net Control Operators:

Week 1 W1DYJ	Larry Banks
Week 2 K1BTZ	Jonathan Traum
Week 3 K1KWP	Kevin Paetzold
Week 4 KC1VZH	David Kula
Week 5 KB1OQA	Tom Turner

To connect using Echolink during the Net:
Echolink Conference *NEW-ENG2*

NOTE: we need another NC to be available as a substitute.
If you are interested, email W1DYJ@mmra.org

MMRA Leaders

Executive Board — Officers

President	Dave Hornbaker	N1DCH
Vice President	John Spencer	WA1MDD
Secretary	Ken Horton,	KA1GFN
Treasurer	Kevin Paetzold	K1KWP
Clerk	Stephen Babbitt	KC1LPZ

Executive Board — Directors

Director >2025	Bob DeMattia	K1IW
Director >2025	Roger Coulson	WA1NVC
Director >2026	Rob Evans	N1BE
Director >2026	James Lee	N1DDK

Appointed

Technical Officer Bob DeMattia K1IW

Repeater Trustees

Belmont 145.43	Ed Curley	KC1CLA
Billerica 147.12	Mike Rioux	W1USN
Boston 146.82	John Mullaney	K1BOS
Boston 927.0625	Rick Zach	KK1RZ
Brookline 145.16	Joyce DeMattia	K1MRA
Burlington 224.88	Bruce Pigott	KC1US
Hopkinton 447.775	Bryan Cerqua	W1BRI
Lowell 442.25	Bob Phinney	K5TEC
Marlborough 53.81	Bryan Cerqua	W1BRI
Marlborough: 29.68, 144.39, 147.27, 223.94, 449.575, 449.925, 927.70 all as W1MRA		
Mendon 146.61	Kevin Paetzold	K1KWP
N. Reading 146.715	Bruce Pigott	KC1US
N. Reading 446.775	Larry Banks	W1DYJ
Quincy 224.40	Bill Dunn	N1KUG
Quincy 146.67	Bryan Cerqua	W1BRI
Weston 146.79	Joe Weisse	W1HAI
Weston 224.70	Eddie Mulhern	N1NOM
Weston 442.70	Dave Hornbaker	N1DCH

Additional, non-Voting

Newsletter Editor	Larry Banks	W1DYJ
Emerg. Coord.	Kevin Paetzold	K1KWP
Pub. Serv. Coord.	Bruce Pigott	KC1US
VEC Liaison	Ron Rothman	WO1E
Net Manager	Larry Banks	W1DYJ
Web Page Editor	Bob DeMattia	K1IW

President Emeritus

Bob DeMattia K1IW

Technical Officer Emeritus

Bryan Cerqua W1BRI

About the Minuteman Repeater Association

MMRA Control Operators Responsibilities

<https://www.mmra.org/MMRACOPolicy-March2019.pdf>

The Minuteman Repeater Association (MMRA) is dedicated to Amateur Radio and public service. The MMRA maintains a large system of repeaters in Eastern Massachusetts.

The MMRA meets each month from September to June. Meeting times, locations, and talk-in frequency vary and are announced in this newsletter and on weekly nets. Meetings are open to all interested parties. Guest speakers and programs of general interest occur in September, November, January, March, and May. The intervening meetings are also open to all members and are for general business.

The Minuteman newsletter is emailed one week before each general interest meeting. Members are encouraged to submit articles: send to the editor at newsletter@mmra.org. The deadline for articles is the last Friday of the month preceding the meeting.

Each Tuesday evening at 8pm the MMRA links most of the repeaters for an open net. The topic is "Technical Information and Other Stuff". Join us!

Membership in the MMRA is open to all radio amateurs. Annual dues are \$25 per individual or \$35 per family. See our website for details.

Contact information is listed on the top of the last page of this newsletter.

MMRA QRM Policy

MMRA members and all other operators are strongly encouraged to report repeater activity that does not abide by Part 97 rules or accepted amateur radio practice to the board of directors at contact@mmra.org or via other means.

The most effective way (and probably the only effective way) to deal with an individual causing QRM is to NOT engage with that individual on the air. Please include the time and date of any incident.

Repeater and Frequency Information

Band	XMTR Location	Freq	PL	Call	Linking To:	
					Hub 1	Hub 2
10m	Marlboro East	29.680	131.8 Linked to 146.79: 9am-3pm every day	W1MRA	???	???
6m	Marlboro East <i>Remote receive Marlboro West: PL=100</i>	53.810	71.9	W1BRI	PTL	PTL
2m	Brookline	145.160	na	K1MRA	D-Star (REF050C)	
	Belmont	145.430	146.2	KC1CLA	Off the air	
	Mendon	146.610		K1KWP	FTL	PTL
	Quincy	146.670		W1BRI	FTL	PTL
	North Reading	146.715		KC1US	FTL	PTL
	Weston	146.790		W1HAI	PTL	PTL
	Weston	146.790		Linked to 29.68: 9am-3pm every day		
	Boston	146.820		K1BOS	FTL	PTL
	Billerica <i>Output tone = 162.2</i>	147.120		W1DC	PTL	PTL
	Marlborough	147.270		W1MRA	PTL	PTL
1.25m	Marlborough	223.940	103.5	W1MRA	FTL	PTL
	Quincy	224.400		N1KUG	FTL	PTL
	Weston	224.700		N1NOM	PTL	PTL
	Burlington	224.880		KC1US	FTL	PTL
70cm	Lowell	442.250	88.5	K5TEC	FTL	PTL: 446.775
	Weston *	442.700	88.5	N1DCH	Network Hub 2 (PTL to Hub 1)	
	North Reading <i>System Fusion</i>	446.775	88.5 Linked 71.9 Local	W1DYJ	FTL [88.5]	PTL [88.5]
	Hopkinton <i>System Fusion</i>	447.775	88.5 Linked 71.9 Local	W1BRI	FTL [88.5]	PTL [88.5]
	Marlborough	449.575	na	W1MRA	D-Star (REF050C)	
	Marlborough *	449.925	88.5	W1MRA	Network Hub 1	
33cm	Boston *	927.0625	D244	KK1RZ	PTL	PTL
	Marlborough *	927.700		W1MRA	PTL	PTL
				<i>PL out = 131.8</i>		
Marlborough		144.390	none	W1MRA	APRS Digipeater	
???		145.630	146.2	W1MRA	Fox Box	
*Internet	HUB1– 449.925: IRLP node 4133 / Echolink node 4133 Connected to Echolink NEWENG2 conference (9127) for TIAOS net.					
	HUB2 – 442.700: IRLP node 4136 / Echolink node 4136 Connected to 220 Reflector 9124 on Tuesdays					
	927.0625: IRLP 4977			Normally linked to the NE900 Reflector, 9125. Linked to MMRA via “NEW-ENG2” node 9127 for the TIAOS net. Normally linked together.		
	927.700: IRLP 4978					
Notes: FTL = Full Time Linked (or default state) PTL = Part Time Linked (on schedule or demand) Note — a repeater can be linked to only one Hub at a time, however the two hubs can also be linked together.						

Contacting the MMRA



Members: join mmra@groups.io to receive member emails.

You must be approved by the moderator.

Officers: contact@mmra.org

Control Ops: control-ops@mmra.org



<http://www.mmra.org/>



<https://www.facebook.com/mmraham>

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MMRA Amateur Radio Exam Sessions

Check out <https://www.mmra.org/exam.html> or email ve@mmra.org

Ask your friends to become a member Just let them know that it is not fully automated. Although they can log into the MMRA website immediately, they need to be manually processed. This could take up to a week.

If you haven't updated your MMRA profile in a while, now is the time! Log into < [MMRA.ORG](http://www.mmra.org) > to do so.

Previous issues of the MMRA Newsletter are available at: [MMRA Newsletter Archive](http://www.mmra.org/newsletter-archive). They are also available at DLARC: <https://archive.org/details/minuteman-repeater-association>

Nets, etc., on the MMRA System

MMRA Technical Information and Other Stuff Net

Our weekly club net on most of the MMRA repeaters, Tuesday night at 8:00 pm local.

Heavy Hitters Traffic Net

This ARRL NTS net is active on our repeaters Sunday to Friday evenings from 9:45—11 PM and Saturday from 10-11.

Coast Guard Net

Sundays at 11:00 AM local.

ARES Net

First Monday at 8:30 PM local.

ARRL Audio News

Sundays at 7 PM local

< https://www.mmra.org/repeaters/repeater_linking.html >



NEW ENGLAND SCI-TECH

New England Sci-Tech Inc is a new 501(c)(3) STEM education center, amateur radio training center, and maker space located at 16 Tech Circle, Natick. It is home to New England Amateur Radio Inc (NE1AR) and the youth radio club Sci-Tech Amateur Radio Society (STARS). NE Sci-Tech welcomes memberships and donations via www.NESciTech.org or www.NE1AR.org.

Get connected on the MMRA Repeater System ~ Dave Hornbaker N1DCH

What is the best way to get connected on the MMRA repeater system? Try announcing yourself! Just say your call sign followed by "listening". If you want, you can include the last 3 digits of the repeater frequency. For example, "N1DCH listening" or maybe "N1DCH listening on 925", you may very well get a response. Try to connect by announcing yourself several times.

Most of the time, Marlborough Hub1 (449.925) is linked to the following repeaters, Boston (146.820), North Reading (446.775 and 146.715), Mendon (146.610), Lowell (442.250), Hopkinton (448.225) and Quincy (146.67.) Remember that when the repeaters are linked, you need to wait two or three seconds after you key up and before you speak. This is especially important on the TlaOS net on Tuesday when most of the repeaters are linked.

You can also link (and delink) the repeaters yourself. See the information you received when you became a member, or check the [User Control Codes](#) once you log into the MMRA website.

Try one of the non-linked repeaters too. There are Hams monitoring them as well. For more information on the repeater network and how it is linked at various times, check out https://www.mmra.org/repeaters/repeater_linking.html.